filed May 20, 1997

BOX PCT Page 1 of 3 08/98231

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE REQUEST FOR FILING NATIONAL PHASE OF

PCT APPLICATION UNDER 35 U.S.C. 371 AND 37 CFR 1.494 OR 1.495 To: The Commissioner of Patents (Our Deposit Account No. 03-3975) and Trademarks (Our Order No. 60258 / 244515 Washington, D.C. 20231 C# M# TRANSMITTAL LETTER TO THE UNITED STATES Atty. Dkt. PMS244515 / 2960609US/43133 DESIGNATED/ELECTED OFFICE (DO/FO/US) Client Ref. From: Pillsbury Madison & Sutro LLP, IP Group Date: January 15, 1998 This is a REQUEST for FILING a PCT/USA National Phase Application based on: 1. International Application 2. International Filing Date 3. Earliest Priority Date Claimed PCT/ FI97 / 00298 20 20 ↑ country code Day MONTH Dav MONTH Year Year (use item 2 if no earlier priority) 4. Measured from the earliest priority date in item 3, this PCT/USA National Phase Application Request is being filed within (a) [XX] 20 months from above item 3 date (b) [] 30 months from above item 3 date. (c) Therefore, the due date (unextendable) is January 20, 1998 Title of Invention TRANSMITTING SUBSCRIBER IDENTITY IN MOBILE COMMUNICATION SYSTEM Inventor(s) HUOTARI Seppo Applicant herewith submits the following under 35 U.S.C. 371 to effect filing: [X] Please immediately start national examination procedures (35 U.S.C. 371(f)). I A copy of the International Application as filed (35 U.S.C. 371(c)(2)) is transmitted herewith (file if in English but, if in foreign language, file only if not transmitted to PTO by the International Bureau) including:] Request: 'nì 1 Abstract: _ pgs. Spec. and Claims: sheet(s) Drawing which are [] informal [] formal of size [] A4 [] 13" [] 14" 9. [X] A copy of the International Application has been transmitted by the International Bureau. 10 A translation of the International Application into English (35 U.S.C. 371(c)(2)) a. [XX] is transmitted herewith including: (1) [XX] Request; (2) [XX] Abstract; (3) 7 pgs. Spec. and Claims; (4) 2 sheet(s) Drawing which are [XX] formal of size 1 informal [XX] A4 [] 11" b. [] is not required, as the application was filed in English is not herewith, but will be filed when required by the forthcoming PTO Missing Requirements Notice per Rule 494(c) if box 4(a) is X'd or Rule 495(c) if box 4(b) is X'd d. [] Translation verification attached (not required now). PLEASE AMEND the specification before its first line by inserting as a separate paragraph: 11. --This application is the national phase of international application PCT/ FI97 /00298

which designated the U.S .--

12.	[]	Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)), i.e., <u>before 18th month</u> from first priority date above in item 3, are transmitted herewith (file if in <u>English</u> but, if in foreign language, file only if <u>not</u> transmitted by the International Bureau) including:
13.	[X]	PCT Article 19 claim amendments (if any) have been transmitted by the International Bureau.
14.	[]	Translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)), i.e., of claim amendments made before 18th month, is attached (required by 20th month from the date in item 3 if box 4(a) above is X'd, or 30th month if box 4(b) is X'd, or else amendments will be considered cancelled).
15.	a. IXX	aration of the inventor (35 U.S.C. 371(c)(4)) 1 is submitted herewith [] Original [XX] Facsimile/Copy is not herewith, but will be filed when required by the forthcoming PTO Missing Requirements Notice per Rule 494(c) if box 4(a) is X'd or Rule 495(c) if box 4(b) is X'd.
16.	a. Was	emational Search Report (ISR): s prepared by [] European Patent Office [] Japanese Patent Office [XX] Other] has been transmitted by the International Bureau to PTO.] copy herewith (_1 pg(s).) [XX] plus Annex of family members (_1 pg(s).).
,17.	a. [X b. [tional Preliminary Examination Report (IPER):] has been transmitted (if this letter is filed after 28 months from date in item 3) in English by the International Bureau with Annexes (if any) in original language.] copy herewith in English] IPER Annex(es) in original language ("Annexes" are amendments made to claims/spec/drawings during Examination) including attached amended:
] Specification/claim pages # [] Drawing Sheets #
¥18. 4 19.	a. [XX b. [XX	amendments will be considered cancelled). ation Disclosure Statement including: Attached Form PTO-1449 listing documents Attached copies of documents listed on Form PTO-1449 A concise explanation of relevance of ISR references is given in the ISR. Assignment document and Cover Sheet for recording are attached. Please mail the recorded
<u> </u>		assignment document back to the person whose signature, name and address appear at the end of this letter.
20.	[]	Copy of Power to IA agent.
21.	[]	Drawings: sheet(s) per set: [] 1 set informal; [] Formal of size [] A4 [] 11"
22 .	[]	(No.) Verified Statement(s) establishing "small entity" status under Rules 9 & 27
23.	both file	y is hereby claimed under 35 U.S.C. 119/365 based on the priority claim and the certified copy, ed in the International Application during the international stage based on the filing noty) _FINLAND of:
	Applica	tion No. Filing Date Application No. Filing Date
(1)	962128	May 20, 1996 (4)
(2)		(5)
(3)		(6)
		See Form PCT/IB/304 sent to US/IDO with copy of priority documents. If copy has not been received, please proceed promptly to obtain same from the IB. Copy of Form PCT/IB/304 attached.
24.	Attache	ed:

25. F	reliminary Amendment:	Claim 3, line 1, delete " or 2 "			
		Claim 5, line 1, change " any one of the	preceding claims	" to claim	n 1
		Claim 9, line 1, delete " 7 or 8 "			
25.5 F	er item 17.c3, cancel origi	nal pages #, claims #	, Drawing Sheets	#	_
		ional Fee (35 U.S.C. 371 (c)(1)) and other re item(s) [] 12, [] 14, [] 17, [XX			
INDEPEN	FFECTIVE CLAIMS DENT CLAIMS Der (ignore improper) MULTIPI	9 - 20 = * 0 x 2 - 3 = * 0 x "If answer <0, enter "0"	\$ 82/\$41 =	\$ \$	Fee Cod (966/967 (964/965
BASIC N		(a)(1)-(4)):	+		
	Search Report was p	not prepared by EPO or JPO prepared by EPO or JPO prode letters in item 1 are "US", "BB", "BB",	add \$930/\$465	+	(96096) (97097)
್ಷ <u>ತೀರ್ಚ </u>	[] B, If neither i	nternational search fee nor international ation fee was paid to <u>USPTO</u>	add \$1070/\$535		_ %0%
(only) -> (one) (of)		onal search fee was paid to <u>USPTO</u> al preliminary examination fee,	add \$790/\$395	+	. (95899
(these)-> (4) (boxes)		onal preliminary examination fee was paid to	add \$720/\$360	+	. 05695
->		onal preliminary examination fee was paid les 492(a)(4) and 496(b) <u>satisfied</u> ,	add \$98/\$49	+	. (96296
27.			SUBTOTAL =	\$ <u>1,070.00</u>	_
28.	If Assignment box 19 above	e is X'd, add Assignment Recording fee of	\$40.00	+ 40.00	6
29.		er the		\$1,110.00	
		s hereby authorized to charge any fee specifically authori nave been filed herewith or concerning any paper filed h			

<u>CHARGE STATEMENT</u>: The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any missing or insufficient feets) filled, or asserted to be filled, or which should have been filled herewith or concerning any paper filed hereafter, and the filled hereafter hereafter to the application and the resulting cofficial document under Rule 20, or credit any overpayment, to our Account/Order Nos. shown in the heading hereof for which purpose a <u>duplicate</u> possible is helte is attached. This CHARGE STATEMENT <u>does not authorize</u> charge of the <u>issue fee</u> until/unless an issue fee transmittal form is filled.

Pillsbury Madison & Sutro LLP Intellectual Property Group

1100 New York Avenue
Ninth Floor, East Tower
Washington, D.C. 20005-3918
Tel: (202) 861-3000
Atty/Sec: DWB:mhn

By Atty: <u>David M, Brinkman</u> Reg. No. <u>20,817</u>
Fax: (202) 822-0944
Sig: Tel.: (202) 861- 3033

NOTE: File in duplicate with 2 postcard receipts (PAT-103) & attachments.

APPLICATION UNDER UNITED STATES PATENT LAWS

Invention: TRANSMITTING SUBSCRIBER IDENTITY IN MOBILE COMMUNICATION

SYSTEM

Inventor(s): HUOTARI, Seppo

Pillsbury Madison & Sutro LLP Intellectual Property Group 1100 New York Avenue, N.W. Ninth Floor, East Tower Washington, D.C. 20005-3918 Attorneys Telephone: (202) 861-3000

This is a:

]	Provisional Application
]	Regular Utility Application
]	Continuing Application
xx]	PCT National Phase Application
]	Design Application
]	Reissue Application
]	Plant Application
]	Substitute Specification Sub. Spec filed

SPECIFICATION

10

15

25

30

35

PCT/FI97/00298

08/983318

•

TRANSMITTING SUBSCRIBER IDENTITY IN MOBILE COMMUNICATION SYSTEM

FIFI D OF THE INVENTION

The invention relates to a method of transmitting the identity of a calling subscriber (subscriber A) to a called subscriber (subscriber B) in a mobile communication system comprising a home location register for permanent storage of subscriber data on mobile stations registered in the network, and at least one visitor location register for temporary storage of subscriber data on mobile stations located in the geographical area monitored by the visitor location register, whereby signalling that is unrelated to the speech connection is transmitted between the switching centres and registers of the mobile communication system.

The invention further relates to a mobile communication system comprising a home location register for permanent storage of subscriber data on mobile stations registered in the network, and at least one visitor location register for temporary storage of subscriber data on mobile stations located in the geographical area monitored by the visitor location register. Signalling that is unrelated to the speech connection is transmitted between the switching centres and registers of the mobile communication system.

20 BACKGROUND OF THE INVENTION

A service usually offered by present mobile communication systems is notification of the identity of the calling subscriber (subscriber A) to the called subscriber (subscriber B) during call set-up. This enables subscriber B to identify the caller before answering the call.

Figure 1 in the attached drawing illustrates mobile MS_B terminating call set-up in a GSM-type mobile communication system. The Figure only shows the relevant network elements as far as call set-up signalling is concerned. At point 1 a call initiated by subscriber A is routed from the network of subscriber A (e.g. a mobile communication system PLMN or a public telephone network PSTN) to the Gateway MSC (GMSC) of the PLMN home network of subscriber B. The GMSC transmits an inquiry (message 2) about routing information to the home location register HLR of subscriber B. The subscriber data on the mobile station MS is permanently stored in the home location register HLR and temporarily in the visitor location register VLR in whose area the mobile station MS is located. During location update, informa-

10

15

20

25

30

35

tion on the visitor location register VLR in whose area subscriber B is located is updated to the home location register HLR of subscriber B. In the example of Figure 1, subscriber B is located in another mobile communication network PLMN. At point 3, the home location register HLR transmits to the visitor location register VLR of subscriber B a request for a roaming number to the PLMN network to be visited. The visitor location register VLR reserves a Mobile Station Roaming Number (MSRN) and transmits the number to the home location register HLR in a reply message 4. The home location register HLR forwards the roaming number in message 5 to the GMSC of the home PLMN which inquired about the routing information. On the basis of the roaming number, the GMSC can then route the call to the mobile services switching centre MSC of subscriber B in the PLMN network visited, if necessary via a transmitting transit network, as in Figure 1, in a set-up message 6. Information on the identity of subscriber A is transmitted to subscriber B in a Calling Line Identity (CLI) field of the set-up message 6. The above kind of transmission of the calling subscriber identity is not always successful, e.g. when subscriber B is located in the area of another PLMN, as in Figure 1. Although call set-up is possible between different networks, all networks do not support the network signalling used in the transmission of the calling subscriber identity. In these cases the called subscriber is notified, in accordance with point 1.4 (version 4.4.1) of the recommendation GSM 02.81, that the CLI is not available.

BRIEF DESCRIPTION OF THE INVENTION

It is an object of the present invention to enable transmission of the identity of a calling subscriber to subscriber B even if call set-up does not support transmission of calling subscriber identity, e.g. because subscriber B is located in the area of another network.

This new type of transmission of the identity of subscriber A is achieved with the method of the invention, which is characterized that the identity of subscriber A is transmitted to the mobile services switching centre of subscriber B via signalling that is unrelated to the speech connection.

The invention further relates to a mobile communication system described in the preamble, which, according to the invention, is characterized in that it is arranged to transmit the identity of subscriber A to the mobile services switching centre of subscriber B via signalling that is unrelated to the speech connection.

15

20

25

30

35

3

The invention is based on the idea that the subscriber identity is transmitted in signalling traffic between the switching centres and registers of the mobile communication system, preferably before a call is established.

The advantage of such a method for transmission of the identity of subscriber A is that the identity of subscriber A can be transmitted to subscriber B irrespective of the signalling protocols of the networks used for call set-up.

A further advantage of the invention is that the identity of subscriber A can be transmitted to subscriber B to the area of another network, e.g. abroad.

LIST OF DRAWINGS

In the following the invention will be described in greater detail with reference to the accompanying drawings, in which

Figure 1 illustrates call set-up in a GSM system, and

Figure 2 shows transmission of subscriber A identity CLI according to the method of the invention.

DETAILED DESCRIPTION OF THE INVENTION

The present invention can be applied to any mobile communication system. By way of example, the invention will be described below in connection with the pan-European digital mobile communication system GSM. As to a more detailed description of the GSM system, reference is made to GSM recommendations and the publication "The GSM System for Mobile Communications", M. Mouly & M. Pautet, Palaiseau, France, 1992, ISBN:2-9507190-0-7.

Figure 1 illustrates signalling associated with call set-up, previously described in connection with state-of-the-art call set-up. In the following the invention will be described in more detail by means of a preferred embodiment with reference to Figure 1. In this embodiment the transmission of subscriber A identity is associated with message 3 of Figure 1. Using MAP signalling of the GSM system, the home location register HLR transmits a roaming number request by a PROVIDE_ROAMING_NUMBER message to the visitor location register VLR. In the preferred embodiment of the invention, the identity of the calling subscriber, e.g. the phone number or the ISDN number, is added to the PROVIDE_ROAMING_NUMBER message, thus enabling identification of subscriber A. As to the other messages of Figure 1, call set-up in a mobile communication system utilizing the method of the invention conforms with the

10

15

20

25

30

35

WO 97/44981 PCT/FI97/00298

4

above described state-of-the-art technique.

Figure 2 illustrates the transmission of the CLI under call set-up according to the preferred embodiment of the invention. The calling subscriber (subscriber A) states his/her identity when initiating a call. At point 1 this information is forwarded via the PLMN home network of subscriber B to the GMSC in a manner known per se. At point 2 the GMSC forwards the CLI to the home location register HLR of subscriber B, e.g. in connection with the inquiry about routing information. In accordance with the invention, at point 3 the PRO-VIDE ROAMING_NUMBER message of the request for a roaming number forwards the CLI from the home location register HLR to the visitor location register VLR, which stores the CLI. In accordance with prior art, the visitor location register VLR answers the request for a roaming number by allocating a roaming number MSRN to the call and by transmitting it to the home location register HLR (point 4), which forwards the roaming number to the GMSC for routing of the call (point 5). Once the set-up message 6 arrives from the GMSC, possibly via a public telephone network or another transit network to the mobile services switching centre MSC of subscriber B in the PLMN network being visited, the MSC makes an inquiry about subscriber data to the visitor location register VLR and receives in the answer, among other things, the identity of subscriber A. The MSC forwards the identity of subscriber A to subscriber B in a manner known per se.

The invention has been described above by way of an example with reference to Figures 1 and 2, in a case when call set-up is carried out via the GMSC of the home network of subscriber B. When subscriber A is located in the same network as the home location register HLR of subscriber B, the call does not have to be routed via the GMSC of subscriber B. Neither is there any need for the GMSC of Figure 1 if the switching centre of subscriber A or the gateway MSC of the network of subscriber A has the capacity to communicate directly with the home location register of subscriber B. In this case the call initiated by subscriber A does not have to be transmitted to the GMSC, but instead the switching centre of subscriber A, e.g. a mobile services switching centre, or the gateway MSC of the network of subscriber A transmits the routing inquiry direct to the home location register HLR of subscriber B (message 2' in Figure 1). The home location register HLR transmits a roaming number request to the visitor location register VLR in accordance with the above described embodiment of the invention by forwarding the identity of subscriber A

15

20

5

in message 3. In a reply message 4 the home location register HLR gets a roaming number MSRN in accordance with the set-up signalling described above. The home location register HLR transmits to the switching centre of subscriber A or the network gateway MSC of subscriber A the roaming number MSRN reserved by the visitor location register VLR in message 5' of Figure 1. Having received this message, the switching centre or the network gateway MSC of subscriber A routes the call to the mobile services switching centre of subscriber B. possibly via a transit network.

Transmission of the identity of subscriber A according to the present invention is also applicable when both subscriber A and subscriber B are located in the home PLMN of subscriber B. A prerequisite for the use of the method of the invention is that the CLI has been transmitted to the home location register HLR of subscriber B.

The drawings and the description related thereto are only intended to illustrate the idea of the invention. The details of the mobile communication system and the method for transmitting the identity of subscriber A of the invention may vary within the scope of the claims. Even though the invention has been described above mainly in connection with MAP signalling, the method can be realized by utilising other kinds of signalling between the mobile services switching centres and registers of a mobile communication system.

10

15

20

25

30

35

CLAIMS

- 1. A method of transmitting the identity of a calling subscriber (subscriber A) to a called subscriber (subscriber B) in a mobile communication system comprising a home location register (HLR) for permanent storage of subscriber data on mobile stations (MS) registered in the network, and at least one visitor location register (VLR) for temporary storage of subscriber data on mobile stations (MS) located in the geographical area monitored by the visitor location register, whereby signalling that is unrelated to the speech connection is transmitted between the switching centres (GMSC, MSC) and registers (HLR, VLR) of the mobile communication system, c h a racterized in that the identity of subscriber A is transmitted to the mobile services switching centre (MSC) of subscriber B via signalling that is unrelated to the speech connection
- 2. A method as claimed in claim 1, c h a racterized in that the identity of subscriber A is transmitted before call set-up.
- 3. A method as claimed in claim 1 or 2, characterized in that the home location register (HLR) transmits to the visitor location register (VLR) the identity of subscriber A in connection with a request for routing information.
- 4. A method as claimed in claim 3, c h a racterized in that the identity of subscriber A is transmitted in a MAP PROVIDE_ROAMING_NUMBER message.
- 5. A method as claimed in any one of the preceding claims, characterized in that subscriber B is located in a visited network.
- 6. A mobile communication system comprising a home location register (HLR) for permanent storage of subscriber data on mobile stations (MS) registered in the network, and at least one visitor location register (VLR) for temporary storage of subscriber data on mobile stations (MS) located in the geographical area monitored by the visitor location register (VLR), whereby signalling that is unrelated to the speech connection is transmitted between the switching centres (GMSC, MSC) and registers (HLR, VLR) of the mobile communication system, characterized in that the mobile communication system is arranged to transmit the identity of subscriber A to the mobile services switching centre (MSC) of subscriber B via signalling that is unrelated to the speech connection.

- 7. A mobile communication system as claimed in claim 6, characterized in that the home location register (HLR) is arranged to transmit the identity of subscriber A to the visitor location register (VLR) in connection with a request for routing information.
- 8. A mobile communication system as claimed in claim 7, char-acterized in that the home location register (HLR) is arranged to transmit the identity of subscriber A in a MAP PROVIDE_ROAMING_NUMBER message.
- 9. A mobile communication system as claimed in claim 6, 7 or 8, 10 characterized in that subscriber B is located in a visited network.

FOR UTILITYDES.... ORIGINAL/SUBSTITUTE/SUPPLEMENTAL DECLARATIONS

х

1.6

Post Office Address (Include Zip Code)

'RULE 63 (37 C.F.R. 1.63) DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

1 - 1 - 1 CUSHMAN FORM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and I believe I

am the original, first and so	le inventor (if only one nar					ing cubcoribe	
subject matter which is claim identity in mob	ned and for	which a patent	is sough	t on the <u>INVI</u>	ENTION ENTITLED	Hansmitt	ing subscribe	1
the specification of	which (CH	ECK applicable	BOXCE	S))				
-> [] is attach								
-> [] was filed	d on			as U.	S. Application No. 0			
BOX(ES) -> [X] was filed	d as PCT In	ernational App	plication	No. PCT/F 19	97 / 00298	on 20 May	y 1997.	
-> -> and (if applicable	to U.S. or P	CT application)	was an	nended on				
hereby state that I have re-								
referred to above. I acknow claim foreign priority benefit								
ciaim foreign priority benefit below any foreign applicatio								
having a filing date (1) befo								
maving a ming date (1) belo	ic unit of a	е аррионион о		priority in this	med, or (m) it no prior	,	ore are raing auto or a	по прричинот.
PRIOR FOREIGN APPLIC	CATION(S)				te first Laid-	Date Patented	Priority	Claimed
Number Co	untry	Day/MONTI	Н/Үеаг	Filed op	en or Published	or Granted	<u>Yes</u>	No
0/0100	ΓI	20 14	1007				Х	
962128	1 1	20 May	1996				X	
			100000		4 ***** 4 ***** ******	and an electrical bala	A DOTE !	
I hereby claim domestic prio								
listed above or below and, i								
addition to that disclosed in in 37 C.F.R. I.56 which because								
in 37 C.F.R. 1.56 which beca application:	ame avanabi	e between the	ming da	ne or each such	n prior application at	id the national of	PC1 international fil	ing date of this
application.								
PRIOR U.S. PROVISIONA	L. NONPR	OVISIONAL A	AND/OR	PCT APPLIC	CATION(S)	Status	Priority	Claimed
Application No. (series code				TH/Year File		abandoned, pater		No
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		_		•				
I hereby declare that all stat	ements mad	e herein of my	own kno	owledge are tru	e and that all stateme	ents made on info	rmation and belief are	believed to be
I hereby declare that all stat true: and further that these								
true; and further that these	e statements	were made w	vith the	knowledge that	t willful false stateme	ents and the like	so made are punish:	able by fine or
	e statements er Section 1	were made w 001 of Title 18	vith the	knowledge that	t willful false stateme	ents and the like	so made are punish:	able by fine or
true; and further that these imprisonment, or both, und	e statements er Section 1	were made w 001 of Title 18	vith the	knowledge that	t willful false stateme	ents and the like	so made are punish:	able by fine or
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush	e statements er Section I sued thereon man Darby	were made w 001 of Title 18 & Cushman Int	vith the of the U	knowledge tha Inited States C Property Gro	t willful false stateme ode and that such wi up of Pillsbury Madis	ents and the like liful false statement son & Sutro LLP	e so made are punish nts may jeopardize the , 1100 New York Aver	able by fine or e validity of the nue, N.W.,
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, W	e statements er Section I sued thereon man Darby Vashington	were made w 001 of Title 18 & Cushman Int D.C. 20005-391	vith the of the U tellectual (8, teleph	knowledge tha Jnited States C Property Gro one number (2	t willful false statements ode and that such wing the statement of Pillsbury Madis (202) 861-3000 (to who	ents and the like liful false statement son & Sutro LLP om all communica	ts o made are punishints may jeopardize the , 1100 New York Avertions are to be directed	able by fine or e validity of the nue, N.W.,
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, We below-named persons (of the	e statements er Section I sued thereon man Darby Vashington, he same addi	were made w 001 of Title 18 & Cushman Int D.C. 20005-39 I ress) individual	vith the of the U tellectual (8, telepholy	knowledge tha Inited States C Property Gro one number (2 ollectively my a	t willful false statement ode and that such wing of Pillsbury Madis 102) 861-3000 (to who attorneys to prosecute	ents and the like liful false statements son & Sutro LLP om all communica this application	ts o made are punishints may jeopardize the punishints may jeopard	able by fine or e validity of the nue, N.W., d), and the siness in the
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, with the control of the Patent and Trademark Office.	e statements er Section 1 sued thereon man Darby Vashington. he same addi- ce connected	were made w 001 of Title 18 & Cushman Int D.C. 20005-391 ress) individual	of the U tellectual (8, telepholy and c) I with the	Property Gro one number (2 ollectively my a e resulting pate	t willful false statemode and that such wi up of Pillsbury Madii 102) 861-3000 (to who attorneys to prosecute ent, and I hereby auti	ents and the like liful false statements son & Sutro LLP om all communicates this application thorize them to de	to made are punishing may jeopardize the , 1100 New York Avertions are to be directed and to transact all but letter names/numbers 1	able by fine or e validity of the nuc, N.W., d), and the siness in the below of
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, We below-named persons (of the Patent and Trademark Offi persons no longer with their	e statements er Section 1 sued thereon man Darby Vashington, he same addi- ce connected r firm and to	& Cushman Into D.C. 20005-391 therewith and pact and rety control was a control of the control o	of the U tellectual (8, telepholy and c) I with the	Property Gro one number (2 ollectively my a e resulting pate ctions from an	t willful false statemode and that such wi up of Pillsbury Madis 102) 861-3000 (to who attorneys to prosecute ent, and I hereby auti d communicate direct	ents and the like liful false statements son & Sutro LLP om all communicate this application thorize them to de- dty with the perso	to made are punishints may jeopardize the 1, 1100 New York Avertions are to be directe and to transact all bur- lete names/numbers in 1n'assignee/attorney/firm	able by fine or e validity of the nuc, N.W., d), and the siness in the below of
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, Weblow-named persons (of the Patent and Trademark Offipersons no longer with their organization who/which first patent and the patent and the persons no longer with their patents.	e statements er Section 1 sued thereon man Darby Vashington, e same add ce connected r firm and te st sends/sent	& Cushman Into D.C. 20005-391 therewith and act and rety of this case to the	tellectual [8,telepholy and color with the	Property Gro one number (2 ollectively my a e resulting pate ctions from an by whom/whic	t willful false statemode and that such wi up of Pillsbury Madii 102) 861-3000 (to who attorneys to prosecute ent, and I hereby auti d communicate direct h I hereby declare th	ents and the like liful false statements. Son & Surro LLP om all communica to this application to rize them to de dy with the perso at I have consent	to made are punishints may jeopardize the 1, 1100 New York Avertions are to be directe and to transact all bur- lete names/numbers in 1n'assignee/attorney/firm	able by fine or e validity of the nuc, N.W., d), and the siness in the below of
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, We below-named persons (of the Patent and Trademark Offi persons no longer with their	e statements er Section 1 sued thereon man Darby Vashington, e same add ce connected r firm and te st sends/sent	& Cushman Into D.C. 20005-391 therewith and act and rety of this case to the	tellectual [8,telepholy and color with the	Property Gro one number (2 ollectively my a e resulting pate ctions from an by whom/whic	t willful false statemode and that such wi up of Pillsbury Madii 102) 861-3000 (to who attorneys to prosecute ent, and I hereby auti d communicate direct h I hereby declare th	ents and the like liful false statements. Son & Surro LLP om all communica to this application to rize them to de dy with the perso at I have consent	to made are punishints may jeopardize the 1, 1100 New York Avertions are to be directe and to transact all bur- lete names/numbers in 1n'assignee/attorney/firm	able by fine or e validity of the nuc, N.W., d), and the siness in the below of
true; and further that thes imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, W Sclownamed persons (of the Patent and Trademark Offi- persons no longer with their organization who/which fire represented unless/until I is	e statements er Section I sued thereon man Darby Vashington. he same addi- ce connected r firm and to st sends/sent instruct the a	& Cushman Into D.C. 20005-391 therewith and act and rely of this case to the bove Firm and	tellectual (S, telepholy and commission instruction instruction instruction and	Property Groone number (2 onlectively my as e resulting pate ctions from an by whom/whicelow attorney in	t willful false statemode and that such wi up of Pillsbury Madii 102) 861-3000 (to who attorneys to prosecute ent, and I hereby auti d communicate direct h I hereby declare th	son & Surro LLP om all communica this application horize them to de dy with the perso at I have consent ary.	e so made are punish: us may jeopardize the , 1100 New York Avei tions are to be directe and to 'tránsact' all bu- lete names/numbers I viassignee/atroney/fir ed after full disclosure	able by fine or e validity of the mue, N.W., d), and the siness in the below of m/
true; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Thoor, East Tower. As below-named persons (of it Patent and Trademark Offipersons no longer with their organization who/which fire represented unless/until I it Paul N. Kokulis	e statements er Section I sued thereon man Darby Vashington. he same addi- ce connected r firm and to st sends/sent instruct the a	& Cushman Into D.C. 20005-391 therewith and act and rety of this case to the	vith the of the U tellectual (8, telepholy and c with the on instruction and the or a beauty) tellectual tellectual (1, tellectual)	Property Gro one number (2 ollectively my a e resulting pate ctions from an by whom/whic	t willful false statemode and that such wi up of Pillsbury Madii 102) 861-3000 (to who attorneys to prosecute ent, and I hereby auti d communicate direct h I hereby declare th	son & Surro LLP om all communica this application horize them to de dy with the perso at I have consent ary.	so made are punish- nas may jeopardize the , 1100 New York Aves- tions are to be directe and to iriansact all bu- leten names/numbers 1 n/assignee/attorney/fir ed after full disclosure David A. Jakopin	able by fine or evalidity of the nuc, N.W., d), and the siness in the below of n/e to be
true; and further that thes imprisonment, or both, und application or any patent is And I hereby appoint Cush Ninth Floor, East Tower, W Sclownamed persons (of the Patent and Trademark Offi- persons no longer with their organization who/which fire represented unless/until I is	e statements er Section I sued thereon man Darby Washington. I see same addite connected in firm and to st sends/sent instruct the a 16773 17519 17698	were made w 001 of Tide 18 & Cushman Int D.C. 20005-391 ress) individual therewith and o act and rely of this case to the act of the bowe Firm and. David W. Brin George M. Siri Donald J. Bird	with the of the U tellectual 8, telepholy and comments with the comments where and the comments where any the comm	knowledge tha Inited States C Property Groone number (2 office of the control of	t willful false statem ode and that such wi up of Filsbury. Madis (1922) 861-3000 (to who the text and I hereby aud d communicate direct his result of the text and I hereby aud to the text and I hereby aud to communicate direct his writing to the contraction. The paul E. White, Jr.	ents and the like liftul false statements on & Sutro LLP on all communicate this application notize them to de duy with the personat I have consent ary. 31097. 32011	so made are punish- nus may Jeopardize the , 1100 New York Ave- tions are to be direct and to Transact all bu- lete names/numbers 1 n/assignee/attorney/fir ed after full disclosure David A. Jakopin Mark G. Paulson	able by fine or evalidity of the auc, N.W., d), and the siness in the below of m/r to be
rune; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash Nuth Floor, East Tower, N Eclow-named persons (of the Patent and Trademark Offi persons no longer with their organization who-which fur respresented unless/until I i Paul N. Kokulis Raymond F. Lippit G. Lloyd Knight C. ard G. Love	e statements er Section I sued thereon man Darby Vashington les anne addit ce connected r firm and te st sends/sent nstruct the a 16773 17519 17698 18781	were made w 001 of Tide 18 & Cushman Int D.C. 20005-391 ress) individual therewith and act and rety c this case to the above Firm and. David W. Brin George M. Sir Donald J. Bird W. Warren Ta	vith the of the U tellectual (8, telepholy and c) with the on instruction and dor a beakman rilla	knowledge tha Inited States C Property Groonen number (2 officetively my a eresulting pate ctions from an by whom/whichow attorney in 20817 18221 23323 25647	t willful false statem ode and that such wi up of Pillsbury Madis 1022 861-3000 (to who taken the prosecute and I hereby aud de communicate direct h I hereby declare th a writing to the control of the properties of the propertie	ents and the like liful false statements on & Sutro LLP on all communicate this application borize them to de dy with the perso at I have consent ary. 31.097. 32011 32331	so made are punish- nas may jeopardize the , 1100 New York Aves- tions are to be directe and to iriansact all bu- leten names/numbers 1 n/assignee/attorney/fir ed after full disclosure David A. Jakopin	able by fine or evalidity of the nuc, N.W., d), and the siness in the below of n/e to be
ruce; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash Ninth Floor, Elast Toxer, 28. Elsow-named persons (of the Patent and Trademark Office persons no longer with their organization who/which firepresented unless/unil I i Paul N. Kokulis Raymond F. Lippitt G. I.loyd Knight Carl G. Lloyd Knight Carl G. Love Edgar H. Martin	e statements er Section 1 sued thereon man Darby Vashington. e same addice connected r firm and to st sends/sent 16773 17519 17698 18781 20534	were made w 001 of Tide 18 & Cushman Int D.C. 20005-391 ress) individual therewith and o act and rely of this case to the act of the case to the act of the case to the bove Firm and. David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow	vith the of the U tellectual 8, teleph ly and c i with the on instru- tem and d/or a be akman rilla iltavui!	knowledge tha Inited States C Property Groone number (2 ollectively my a cresulting pate tions from an by whom/whicelow attorney is 20817 18221 25321 25647 25872	t willful false statem ode and that such wi up of Filsbury. Madis (1922) 861-3000 (to who the text and I hereby aud d communicate direct his result of the text and I hereby aud to the text and I hereby aud to communicate direct his writing to the contraction. The paul E. White, Jr.	ents and the like liful false statements on & Sutro LLP on all communicate this application borize them to de dy with the perso at I have consent ary. 31.097. 32011 32331	so made are punish: ns may jeopardize the 1100 New York Ave- tions are to be directe and to irrinsact all bu- lete names/numbers I r/assignee/atomey/fire d after full disclosure David A. Jakopin Mark G. Paulson Timothy J. Klima	able by fine or evalidity of the one. N.W., d), and the siness in the below of m/ to be
rune; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash Ninh Floor, East Tower, N Eclow-named persons (of the Patent and Trademark Offs persons no longer with their organization who/which fir- represented unless/until 1 i Paul N. Kokulis Raymond F. Lippit G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr.	e statements er Section I sued thereon I sued thereon I sued thereon I sahe addice connected or firm and to st sends/sent instruct the a 16773 17519 17698 18781 20534 22057	were made w 0001 of Tide 18 & Cushman Int D.C. 20005-391 ress) individual t therewith and o act and rety of this case to the thoove Firm and. David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow	vith the of the U tellectual 18, telepholy and c with the on instru- term and to a beakman rilla the of the U tellectual 1	Property Groone number (2 ollectively my a resulting pate citons from an by whom/white low attorney is 20817 [8221, 25321, 25647, 28872, 28872.	t willful false statem ode and that such wi up of Pillsbury. Madii 1022) 861-3000 (to who attorneys to prosecute mt, and I hereby autid communicate direct h I hereby declare th writing to the control Paul E. White, Jr. Michelle N. Lester Jeffrey A. Simenaue.	son & Surro LLP on all communica this application to the perso at I have consent ary. 31097. 32011 3231 ar 31993-	e so made are punish: sn may jeopardize thi , 1100 New York Ave- tions are to be directe and to 'rainsact' all bus- lete names/mambers i n'assignee/attorney/firi ed after full disclosure David A. Jakopin Mark G. Paulson Timothy J. Klima Stephen C. Glazier	able by fine or evalidity of the one, N.W., d), and the siness in the below of n/ et to be 32995 30793 34852 31361
rue; and further that these imprisonment, or both, und application or any patent is Minth Floor, Dast, Tower, an bellow-named persons (of the Patent and Trademark Offi persons no longer with thei represented unless/until I i Paul N. Kokulis Raymond F. Lippitt Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce.	e statements er Section 1 sued thereon man Darby Vashington, the same addice connected from and the stendard standard standard from the a 16773 17519 17698 1878 1878 120534 22057 270508	were made w 0001 of Tide 18 & Cushman Int D.C. 20005-391 ress) individual therewith and a act and rety c this case to the those Firm and. David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glenn J. Perry Glenn J. Perry	vith the of the U tellectual (8, telepholy and c) with the con instruction and d/or a beakman rilla illavui!	Property Groone number (2 ollectively my a eresulting pate eresulting pate clow attorney in 20817_18221_25323_25647_25872_28872_28458_	up of Pillsbury Madii up of Possecute unt, and I hereby aud o communicae direc h I hereby declare th n writing to the contri Paul E. White, Jr. Michelle N. Lester - Leffrey A. Simenaue G. Paul Edgell	son. & Surro LLP mall communica this polication norize them to de dy with the perso at I have consent at I have consent ary. 31097. 323011 32331 24238	so made are punish: ns may jeopardize the 1100 New York Ave- tions are to be directe and to irrinsact all bu- lete names/numbers I r/assignee/atomey/fire d after full disclosure David A. Jakopin Mark G. Paulson Timothy J. Klima	able by fine or evalidity of the one. N.W., d), and the siness in the below of m/ to be
rune; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash. Nuth. Floor, Leaf Tower. W Eclow-named persons (of it Patent and Trademark Offs persons no longer with their organization who-which fur represented unless/until I i Paul N. Körulis Raymond F. Lippitt G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince	e statements er Section 1 sued thereon man Darby Vashington, le same addice ce connected r firm and te st sends/sent nstruct the a 16773 17519 17698, 18781, 20513, 20513, 20525, 20528, 205290	were made w 0001 of Tide 18 & Cushman Int D.C. 20005-391 Experiment and of act and rely of this case to the bove Firm and. David W. Brin George M. Sir U. Warren Ta W. Warren Ta Peter W. Gow Dale S. Lazar Glenn J. Petry Kendrew H. C	vith the of the U tellectual (8, telepholy and c) with the con instruction and d/or a beakman rilla illavui!	Property Groone number (2 ollectively my a eresulting pate eresulting pate clow attorney in 20817_18221_25323_25647_25872_28872_28458_	t willful false statem ode and that such wi up of Pillsbury. Madii 1022) 861-3000 (to who attorneys to prosecute mt, and I hereby autid communicate direct h I hereby declare th writing to the control Paul E. White, Jr. Michelle N. Lester Jeffrey A. Simenaue.	son & Suro LLP m all communica this application horize them to depend on the person at I have consent ary. 31097. 32011 32331 31993. 24238 35861	es om made are punishins may jeopardize this may jeopardize the control of the co	able by fine or evalidity of the one, N.W., d), and the siness in the below of n/ et to be 32995 30793 34852 31361
ruce; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cush. Ninth Floor, East Toxier, IN Toking Floor, East Toxier, IN Toking Floor, International	e statements er Section 1 sued thereon man Darby Vashingron. le same addice connected or firm and to st sends/sent instruct the a 16773 17519 17509 18781 20513 20508 22429 URE:	were made w 0001 of Title 18 & Cushman Int D.C. 20005-391 ress) individual therewith and act and rely c this case to th bove Firm and. David W. Brin Ceorge M. Sir Donald J. Burd W. Warren Ta Peter W. Gow Dale S. Lazz Glenn J. Petry Kendrew H. C	vith the of the U tellectual (8, telepholy and c) with the con instruction and d/or a beakman rilla illavui!	Property Groone number (2 ollectively my a eresulting pate eresulting pate clow attorney in 20817_18221_25323_25647_25872_28872_28458_	up of Pillsbury Madii up of Possecute unt, and I hereby aud o communicae direc h I hereby declare th n writing to the contri Paul E. White, Jr. Michelle N. Lester - Leffrey A. Simenaue G. Paul Edgell	influ false statement of the like liftly false statement on all communicate this application norize them to determine the statement of the sta	e so made are punishins may leopardize this may leopardize the tions are to be directe and to transact all bulete names/numbers 1 wassignee/stomey/fined after full disclosure David A. Jakopin Mark G. Paulson Timothy J. Klima Stephen C. Glazier Paul F. McQuade 24 Oct 5 2	able by fine or e validity of the nuc, N.W., d), and the siness in the below of n/ e to be 32995 30793 34852 31361 -31542
rune; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash. Nuth. Floor, Leaf Tower. W Eclow-named persons (of it Patent and Trademark Offs persons no longer with their organization who-which fur represented unless/until I i Paul N. Körulis Raymond F. Lippitt G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince	e statements er Section 1 sued thereon man Darby Vashington. I es same addice or firm and 6 st sends/sent nstruct the a struct the a 16773 17519 17698 18781 20534 220429 UURE:	were made w 0001 of Tide 18 & Cushman Int D.C. 20005-391 theress) individes a cat and rely of this case to th bove Firm and David W. Brin George M. Sir Donald J. Bov Donald J. Bov Donald S. Lazar Glem J. Peter W. Gow Dale S. Lazar Glem J. Peter W. Com Learn Telegram Learn T	vith the of the U tellectual (8, telepholy and c) with the con instruction and d/or a beakman rilla illavui!	knowledge tha Inited States C Property Gro one number (2 oldlectively my ac e resulting pate totions from an by whorn/while clow attorney it 20817_ 18221_ 25817_ 28872_ 28458_ 30468_ 30468_ 30468_ 30468_ 30468_ 30468_	wilful false statem ode and that such wi ode and the such at th	son & Suro LLP on this communication with a policiation horize them to depend on the surface of	es on made are punish ins may Jeopardize this may Jeopardize the close and to 'trainsact all bus lete names/mmbers is 'vassignee' and to 'trainsact all bus lete names/mmbers is 'vassignee' and to 'trainsact all bus may be not to be directed and to 'trainsact all bus marked and the compared and	able by fine or evalidity of the nuc. N.W., d), and the siness in the below of m/ et to be 32995 30793 34852 31361 -31542
rue; and further that these imprisonment, or both, und application or any patent is Mind Floor, East. Tower. 30 Ellow-named persons (of the Patent and Trademark Officeropersons to longer with their organization who/which fire represented unless/undl I i Paul N. Kotalis Raymond F. Lippite Carl G. Loyek Knight Carl G. Loyek Knight Carl G. Loyek Knight Carl G. Loyek Knight Carl G. Livyek Knight G. Livyek Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince I. INVENTOR'S SIGNAT J Inventor's Name (typed)	e statements er Section 1 sued thereon man Darby Vashington. le same addice connected or firm and to st sends/sent instruct the a si sends/sent instruct the a 16773 17519 17598 18781 20532 22429 22429 UURE:	were made w 0001 of Title 18 & Cushman Int D.C. 20005-391 ress) individual therewith and act and rely c this case to th bove Firm and. David W. Brin Ceorge M. Sir Donald J. Burd W. Warren Ta Peter W. Gow Dale S. Lazz Glenn J. Petry Kendrew H. C	vith the of the U tellectual (8, telepholy and c) with the con instruction and d/or a beakman rilla illavui!	knowledge tha Inited States C Property Groone number (2) ollectively my ceresulting pate citons from an by whom/white low attorney it 2001. 2832. 25547. 25837. 28872. 28458. 30468.	in wilful false statem ode and that such wilful false statem ode and that such wilful false statement of the false of the	influ false statement son. & Sutro LLP son. & Sutro LLP on all communica this application norize them to de dy with the perso at I have consent ary. 31097. 32011 32331 24238 35861. Date Date Family Name	so made are punish ms may Jeopardize thin sin may Jeopardize the fill of the f	able by fine or e validity of the nuc, N.W., d), and the siness in the below of n/ e to be 32995 30793 34852 31361 -31542
rune; and further that these imprisonment, or both, und application or any patent is Nuth. Floor, Last Tower. W Elevanned persons (of the Patent and Traderant's Offs persons no longer with their persons no longer with their persons no longer with their organization who-which fur expresented unless/until I i Paul N. Kokulis Raymond F. Lippit G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince I. INVENTOR'S SIGNAT Iluventor's Name (typed) Residence (City)	e statements er Section 1 sued thereon man Darby Vashington in eastern additional to the same additional to the sa	were made wo Ool of Title 18 & Cushman Into L. 20005-391 D. C. 20005-391 therewith and a set and rety this case to the bowe Firm and David W. Brit George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glemn J. Perry Kendrew H. C.	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha Inited States C Property Groone number (2) ollectively my ceresulting pate citons from an by whom/white low attorney it 2001. 2832. 25547. 25837. 28872. 28458. 30468.	in wilful false statem ode and that such wilful false statem ode and that such wilful false statement of the false of the	influ false statement son. & Sutro LLP son. & Sutro LLP on all communica this application norize them to de dy with the perso at I have consent ary. 31097. 32011 32331 24238 35861. Date Date Family Name	so made are punish ms may Jeopardize thin sin may Jeopardize the fill of the f	able by fine or evalidity of the nuc. N.W., d), and the siness in the below of m/ et to be 32995 30793 34852 31361 -31542
rue; and further that these imprisonment, or both, und application or any patent is Mind Floor, East. Tower. 30 Ellow-named persons (of the Patent and Trademark Officeropersons to longer with their organization who/which fire represented unless/undl I i Paul N. Kotalis Raymond F. Lippite Carl G. Loyek Knight Carl G. Loyek Knight Carl G. Loyek Knight Carl G. Loyek Knight Carl G. Livyek Knight G. Livyek Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince I. INVENTOR'S SIGNAT J Inventor's Name (typed)	e statements er Section 1 sued thereon man Darby Vashington in eastern additional to the same additional to the sa	were made wo Ool of Title 18 & Cushman Into L. 20005-391 D. C. 20005-391 therewith and a set and rety this case to the bowe Firm and David W. Brit George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glemn J. Perry Kendrew H. C.	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha Inited States C Property Groone number (2) ollectively my ceresulting pate citons from an by whom/white low attorney it 2001. 2832. 25547. 25837. 28872. 28458. 30468.	wilful false statem ode and that such wi ode and the such at th	influ false statement son. & Sutro LLP son. & Sutro LLP on all communica this application norize them to de dy with the perso at I have consent ary. 31097. 32011 32331 24238 35861. Date Date Family Name	so made are punish ms may Jeopardize thin sin may Jeopardize the fill of the f	able by fine or evalidity of the nuc. N.W., d), and the siness in the below of m/ et to be 32995 30793 34852 31361 -31542
rune; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash Nuth. Floor, Lear Tower. N below-named persons (of the Patent and Trader. N persons no longer with their organization who-which fire represented unless/until I i Paul N. Kokulis Raymond F. Lippitt G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince 1. INVENTOR'S SIGNAT J Inventor's Name (typed) Residence (City) Residence (City) Post Office Address (Included)	e statements er Section 1 sued thereon man Darby Vashington. In each search addition to the state of the stat	were made wo Ool of Title 18 & Cushman Into L. 20005-391 D. C. 20005-391 therewith and a set and rety this case to the bowe Firm and David W. Brit George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glemn J. Perry Kendrew H. C.	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha Inited States C Property Groone number (2) ollectively my ceresulting pate citons from an by whom/white low attorney it 2001. 2832. 25547. 25837. 28872. 28458. 30468.	in wilful false statem ode and that such wilful false statem ode and that such wilful false statement of the false of the	influence of the control of the cont	so made are punish ms may Jeopardize thin sin may Jeopardize the fill of the f	able by fine or evalidity of the nuc. N.W., d), and the siness in the below of m/ et to be 32995 30793 34852 31361 -31542
rune; and further that these imprisonment, or both, and application or any patent is with Floor, Data. Tower. Bollow Patent and Trademark Officeron and Catch Number 1997. The Patent and Trademark Officeron and Catch	e statements er Section 1 sued thereon man Darby Vashington. I see same addition to the state of	were made wo Ool of Title 18 & Cushman Into L. 20005-391 D. C. 20005-391 therewith and a set and rety this case to the bowe Firm and David W. Brit George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glemn J. Perry Kendrew H. C.	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha Inited States C Property Groone number (2) ollectively my ceresulting pate citons from an by whom/white low attorney it 2001. 2832. 25547. 25837. 28872. 28458. 30468.	in wilful false statem ode and that such wilful false statem ode and that such wilful false statement of the false of the	influ false statement son. & Sutro LLP son. & Sutro LLP on all communica this application norize them to de dy with the perso at I have consent ary. 31097. 32011 32331 24238 35861. Date Date Family Name	so made are punish ms may Jeopardize thin sin may Jeopardize the fill of the f	able by fine or evalidity of the nuc. N.W., d), and the siness in the below of m/ et to be 32995 30793 34852 31361 -31542
rune; and further that these imprisonment, or both, und application or any patent is And I hereby appoint Cash Nuth. Floor, Lear Tower. N below-named persons (of the Patent and Trader. N persons no longer with their organization who-which fire represented unless/until I i Paul N. Kokulis Raymond F. Lippitt G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince 1. INVENTOR'S SIGNAT J Inventor's Name (typed) Residence (City) Residence (City) Post Office Address (Included)	e statements er Section 1 sued thereon man Darby Vashington. I see same addition to the state of	were made wool of Title 18 **Cushman In 18 **Cushman In 19 **Cushman In	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha Inited States C Property Groone number C Collectively my to ensuling the creating state of the Collectively my to ensuling has been without the collectively my to ensuling has been considered in the collections from an by whom/white low attorney in 18221 25832 2582 258	wilful false statem ode and that such wi ode and the such with the such at	influt false statements and the like ilful false statement son. & Surro LLP on all communica this application being the more than the day with the personal I have consent at I have consent ary. 31097, 32011 32331 32331 33861. Date HUOLari Family Name Finland Spoo, I 1n18	es on made are punish ins may jeopardize the insist may jeopardize the	aue, N.W., d), and the siness in the below of m' to be 32295 30793 34852 31361 -37542
rune; and further that these imprisonment, or both, and application or any patent is with Floor. Flast. Tower. W. Dellow-named persons (of the Tenenard Persons to the Tenenard Present and Trademark Offs persons no longer with their organization who/which fire represented unless/until 1 is Paul N. Kokulis Raymond F. Lippitt C. and T. and	e statements er Section 1 sued thereon man Darby Vashington. I see same addition to the state of	were made wo Ool of Title 18 & Cushman Into L. 20005-391 D. C. 20005-391 therewith and a set and rety this case to the bowe Firm and David W. Brit George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glemn J. Perry Kendrew H. C.	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha hinted States C Property Goo on number (2 ollectively my 1c resulting states of the collectively my 1c resulting states of the collective states of the c	in wilful false statem ode and that such wilful false statem ode and that such wilful false statem of Fillsbury Madis 1923 861-3000 (to who thorneys to prosecute unit, and I hereby aud dominimate direct high statement of the manufacture of t	influence of the control of the cont	es on made are punish ins may jeopardize the insist may jeopardize the	able by fine or evalidity of the nuc. N.W., d), and the siness in the below of m/ et to be 32995 30793 34852 31361 -31542
rune; and further that these imprisonment, or both, und application or any patent is Nuth. Floor, Last Tower. W Elevanted Persons (of the Patent and Trade. Tweet. W Elevanted Persons (of the Patent and Trade. W Elevanted Persons to longer with their organization who-which fur represented unless/until 1 in Paul N. Kokulis Raymond F. Lippit G. Lloyd Knight C. G. Lloyd Knight C. G. H. G. W. William K. West, Jr. Kevin E. Joyce Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince 1. INVENTOR'S SIGNAT Jluventor's Name (typed) Residence (City) Post Office Address (Includent Control of the Patent Control of Residence (City) Residence (City) Residence (City) Residence (City)	e statements er Section 1 sued thereon man Darby Zashington. I sued thereon man Darby Zashington. I sued the same addition to the send sued to the send sued to the send sued to the sued sued sued to the sued sued to the sued sued to the sued sued to the sued	were made wool of Tide 18 & Cushman In 18 & Cushman In 19 CL 20005-391 ress) individual therewith and o act and rely or this case to the bove Firm and David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glema J. Petry K. Gow Dale S. Lazar Glema J. Petry K. Gow Till Strate Till S	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha hinted States C Property Goo on number (2 ollectively my 1c resulting states of the collectively my 1c resulting states of the collective states of the c	wilful false statem ode and that such wi ode and the such with the such at	influt false statements and the like ilful false statement son. & Surro LLP on all communica this application being the more than to dedy with the personal I have consent at I have consent ary. 31097, 32011 32331 32331 33861. Pate HUOLari Family Name Finland Spoo, I 1n18	es on made are punish ins may jeopardize the insist may jeopardize the	aue, N.W., d), and the siness in the below of m' to be 32295 30793 34852 31361 -37542
rune; and further that these imprisonment, or both, and application or any patent is with Floor. Flast. Tower. W. Dellow-named persons (of the Tenenard Persons to the Tenenard Present and Trademark Offs persons no longer with their organization who/which fire represented unless/until 1 is Paul N. Kokulis Raymond F. Lippitt C. and T. and	e statements er Section 1 sued thereon man Darby Zashington. I sued thereon man Darby Zashington. I sued the same addition to the send sued to the send sued to the send sued to the sued sued sued to the sued sued to the sued sued to the sued sued to the sued	were made wool of Tide 18 & Cushman In 18 & Cushman In 19 CL 20005-391 ress) individual therewith and o act and rely or this case to the bove Firm and David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glema J. Petry K. Gow Dale S. Lazar Glema J. Petry K. Gow Till Strate Till S	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha hinted States C Property Goo on number (2 ollectively my 1c resulting states of the collectively my 1c resulting states of the collective states of the c	in wilful false statem ode and that such wilful false statem ode and that such wilful false statem of Fillsbury Madis 1923 861-3000 (to who thorneys to prosecute unit, and I hereby aud dominimate direct high statement of the manufacture of t	influt false statements and the like ilful false statement son. & Surro LLP on all communica this application being the more than to dedy with the personal I have consent at I have consent ary. 31097, 32011 32331 32331 33861. Pate HUOLari Family Name Finland Spoo, I 1n18	es on made are punish ins may jeopardize the insist may jeopardize the	aue, N.W., d), and the siness in the below of m' to be 32295 30793 34852 31361 -37542
rune; and further that these imprisonment, or both, und application or any patent is and I hereby appoint Cash. Nuth. Floor, Leaf Tower. W Eclow-named persons (of the Patent and Traderant's Offs persons no longer with their organization who-which fur experiented unless/until I i Paul N. Kokulis Raymond F. Lippit G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince I. 1. INVENTOR'S SIGNAT Jlaventor's Name (typed) Residence (City)	e statements er Section 1 sued thereon man Darby Verkinston. Les aum additect of the statement of the statem	were made wool of Tide 18 & Cushman In 18 & Cushman In 19 CL 20005-391 ress) individual therewith and o act and rely or this case to the bove Firm and David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glema J. Petry K. Gow Dale S. Lazar Glema J. Petry K. Gow Till Strate Till S	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha hinted States C Property Goo on number (2 ollectively my 1c resulting states of the collectively my 1c resulting states of the collective states of the c	in wilful false statem ode and that such wilful false statem ode and that such wilful false statem of Fillsbury Madis 1923 861-3000 (to who thorneys to prosecute unit, and I hereby aud dominimate direct high statement of the manufacture of t	ents and the like lifted false statement on the like lifted false statement on the lifted false statement of the lifted false	es on made are punish ins may jeopardize the insist may jeopardize the	aue, N.W., d), and the siness in the below of m' to be 32295 30793 34852 31361 -37542
rue; and further that these imprisonment, or both, and application or any patent is with Floye I.B. And I hereby appoint Cush Ninth Floye, I.B. Tawer, W. Dellow-named persons (of the Takent and Tradenark Officeronal Conference of the Tawer of the Tawer of Tawer of the Tawer of Ta	e statements er Section I sued thereon man Darby Vashington. I same addite or commented in firm and by sends/sent instruct the a single state of 1773 17519 17598 18781 20514 22057 20508 22429 URE: Space of Zip Code URE:	were made wool of Tide 18 & Cushman In 18 & Cushman In 19 CL 20005-391 ress) individual therewith and o act and rely or this case to the bove Firm and David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glema J. Petry K. Gow Dale S. Lazar Glema J. Petry K. Gow Till Strate Till S	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha hinted States C Property Goo on number (2 ollectively my 1c resulting states of the collectively my 1c resulting states of the collective states of the c	in wilful false statem ode and that such wilful false statem ode and that such wilful false statem of Fillsbury Madis 1923 861-3000 (to who thorneys to prosecute unit, and I hereby aud dominimate direct high statement of the manufacture of t	influt false statements and the like ilful false statement son. & Surro LLP on all communica this application being the more than to dedy with the personal I have consent at I have consent ary. 31097, 32011 32331 32331 33861. Pate HUOLari Family Name Finland Spoo, I 1n18	es on made are punish ins may jeopardize the insist may jeopardize the	aue, N.W., d), and the siness in the below of m' to be 32295 30793 34852 31361 -37542
rune; and further that these imprisonment, or both, und application or any patent is and I hereby appoint Cash. Nuth. Floor, Leaf Tower. W Eclow-named persons (of the Patent and Traderant's Offs persons no longer with their organization who-which fur experiented unless/until I i Paul N. Kokulis Raymond F. Lippit G. Lloyd Knight Carl G. Love Edgar H. Martin William K. West, Jr. Kevin E. Joyce Edward M. Prince I. 1. INVENTOR'S SIGNAT Jlaventor's Name (typed) Residence (City)	e statements er Section I sued thereon man Darby Vashington. I same addite or commented in firm and by sends/sent instruct the a single state of 1773 17519 17598 18781 20514 22057 20508 22429 URE: Space of Zip Code URE:	were made wool of Tide 18 & Cushman In 18 & Cushman In 19 CL 20005-391 ress) individual therewith and o act and rely or this case to the bove Firm and David W. Brin George M. Sir Donald J. Bird W. Warren Ta Peter W. Gow Dale S. Lazar Glema J. Petry K. Gow Dale S. Lazar Glema J. Petry K. Gow Till Strate Till S	tellectual 8, celephole 8, celephole 10, and cel	knowledge tha hinted States C Property Goo on number (2 ollectively my 1c resulting states of the collectively my 1c resulting states of the collective states of the c	wilful false statem ode and that such wi ode and the such as of the such	ents and the like lifted false statement on the like lifted false statement on the lifted false statement of the lifted false	eso made are punish ins may jeopardize this may jeopardize the close and to 'transact all bus in visual programmers' in visual programmer	aue, N.W., d), and the siness in the below of m' to be 32295 30793 34852 31361 -37542

(FOR ADDITIONAL INVENTORS, check box [] and attach sheet (CDC-116.2) for same information for each re signature, name, date, citizenship, residence and address.)

 MS_{B}

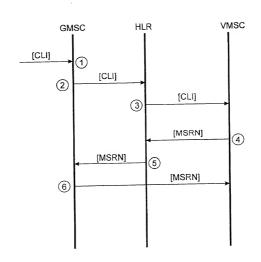
0000

1/2

품

And the second of the second o

Fig. 2



APPROVED O.G. FIG.
CLASS SUBCLASS

DRAFTSMAN